

exchange fluid in heat exchange relationship with at least a portion of the body of a patient and comprising:

an outer tube having an elongate configuration and a first lumen;

an inner tube disposed in the first lumen of the outer tube and having a second lumen extending between the proximal end and the distal end of the catheter;

portions of the inner tube defining a first heat exchange fluid flow path extending along the second lumen between the proximal end and the distal end of the catheter;

portions of the outer tube and the inner tube defining a second heat exchange fluid flow path extending between the proximal end and the distal end of the catheter; and

a plurality of hollow fibers having walls defining lumens for containing the heat exchange fluid, the hollow fibers being sealingly coupled to the first heat exchange fluid flow path and the second heat exchange fluid flow path to thereby provide a closed fluid connection between the first fluid flow path and the second fluid flow path for transport of heat exchange fluid between the first fluid flow path and the second fluid flow path

wherein:

each of the hollow fibers has a proximal end and a distal end;

the distal end of each of the hollow fibers has a fixed relationship with the distal end of the inner tube;

the proximal end of each of the hollow fibers has a fixed relationship with the distal end of the outer tube;

the inner tube is movable relative to the outer tube[.]; and

c1 [wherein] relative movement between the inner tube and the outer tube varies the configuration of the hollow fibers extending between the inner tube and the outer tube.

5. (Amended) [The] A catheter [recited in Claim 1] having an elongate configuration with a proximal end and a distal end, the catheter configured to contain a heat exchange fluid in heat exchange relationship with at least a portion of the body of a patient and comprising:

an outer tube having an elongate configuration and a first lumen;

c2 an inner tube disposed in the first lumen of the outer tube and having a second lumen extending between the proximal end and the distal end of the catheter;

portions of the inner tube defining a first heat exchange fluid flow path extending along the second lumen between the proximal end and the distal end of the catheter;

portions of the outer tube and the inner tube defining a second heat exchange fluid flow path extending between the proximal end and the distal end of the catheter;

a plurality of hollow fibers having walls defining lumens for containing the heat exchange fluid, the hollow fibers being sealingly coupled to the first heat exchange fluid flow path and the second heat exchange fluid flow path to thereby provide a closed fluid connection between the first fluid flow path and the second fluid flow path for transport of heat exchange fluid between the first fluid flow path and the second fluid flow path; and
[further comprising:]